with a comparately narrow interorbital space; the frontal area is flat, and in one instance just in front of the orbits the surface of the skull is shallowly concave. In all other species examined there was no instance of a flat or concave skull as in the lake trout, and in most instances there is a median longitudinal ridge at the juction of the frontal bones, particularly in the larger specimens.

The narrow and relatively long ethmoid gives the contracted or pinched appearance of the snout as noticeable in the lake trout. As a rule the shape of the head and appearance of the snout affords a good recognition character in larger specimens, at least.

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THE TOADS AND FROGS OF MONROE AND WAYNE COUNTIES, N. Y.

1. *Scaphiopus holbrookii holbrookii* (Harlan). Spadefoot. Prof. Chas. Wright Dodge of Univ. of Rochester told me of a record of this species from Wayne county. The material was seen by him and taken by one of the collectors of Ward's Establishment.

2. *Bufo americanus* Holbrook. American Toad. Common. March 25—Oct. 15. Eggs April 10—July 1.

3. *Pseudacris feriarum* (Baird). Swamp Cricket Frog. Peeper. Spring Peeper. Common. March 20—Oct. 1. The "Spring peeper" chorus is more likely to be this form than of *Hyla crucifer*. Eggs laid March 20—April 20. Transformation last of June.

4. *Hyla crucifer* Wied. Peeper. Pickering's Tree Frog. Quite common. March 25—Oct. 15. In this region, often the spring peepers are considered this

species but as frequently they are the above species, *P. feriarum.* The later choruses of late April and early May are more likely to be of *Hyla crucifer.* Egg-laying may begin in early April but usually comes from April 15—May 15. Transformation from July 8 onward. In fall from Sept. 1 they may be heard in the wooded areas or about the bays of Lake Ontario.

5. *Hyla versicolor* LeConte. Tree Toad. Common. May 1—Oct. 15. Eggs laid last of May—July 1. Begins croaking again Aug. 25—Oct. 1, quite commonly from Sept. 5—25. Transformation Aug. 1 onward.

6. *Rana catesbeiana* Shaw. Bullfrog. Common in swamps, marshy creeks and about the bays of Lake Ontario April 25—Oct. 15. Eggs June 20—July 20. Transformation middle of July onwards.

7. *Rana clamitans* Latreille. Green Frog. Common along swamp creeks and about the bays of Lake Ontario March 25—Oct. 15. Croaking becomes common last of June and first of July. Eggs June 1—Aug. 1. Transformation June 25 through the summer. Many of the former Rochester market froggers used to catch them and meadow-frogs in quantity about the bays and up Buttonwood and North Creeks.

8. *Rana palustris* LeConte. Pickerel-frog. Not common in the area north of the Ridge Road. Not uncommon in the hilly southern portions of Monroe in clear streams and bodies of water like Mendon ponds or in southern Wayne County at Junius, N. Y., March 25—Oct. 15. Eggs laid from April 20—May 20. Transformation July 20 onwards.

9. *Rana pipiens* Schreber. Leopard-frog. "Spotted Frog." Abundant. March 15—Oct. 15. Eggs March 25—May 1. Transformation June 26 onwards. Croaking intermittently from Aug. 20 to hibernation time.

10. *Rana sylvatica* LeConte. Wood-frog. Common. March 25—Oct. 15. Eggs Mar. 15—Apr. 25. Transformation June 25 onwards.

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A NOTE ON THE DEVELOPMENT OF *PSEUDACRIS FERIARUM* (BAIRD).

The following notes, taken during the spring and summer of 1919 show a remarkably rapid development for one of the Anura. The pools mentioned were completely exposed to the sun. They were never large and when the young frogs were emerging thirty-six days after the first eggs were found, they were nearly dry. It is possible that this may have hastened metamorphosis to some extent.

May 17, 1919, Fort Sheridan, Ill. Found *Pseudacris feriarum* breeding in trenches on the Rifle Range and collected a couple of egg clusters. The eggs are attached to grass stems arranged in a layer one or two eggs thick all around the stem, forming a mass about two inches long and less than half an inch in diameter.

May 18. Collected a breeding pair in a roadside ditch near camp.

June 22. Tadpoles of this species are metamorphosing in the same pools on the Rifle Range where eggs were found on May 17. They were in all stages of development, from tadpoles two-thirds grown, with short hind legs, to young frogs with tails nearly absorbed. The measurements of several specimens follow:

Two full-grown tadpoles with short hind legs meauseured 26 and 26.5 mm. Four with large hind legs and fore-legs almost ready to burst out; 25.5, 27, 27.5 and 28 mm. Four young frogs with all four legs well developed and tails in different stages of